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EXAMINER	
SALL, EL HADJI MALICK	
ART UNIT	**PAPER NUMBER**
2157	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/015,097	HAINES, ROBERT E.	
	Examiner	Art Unit	
	El Hadji M. Sall	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the amendment filed on March 25, 2005. Claims 1-20 are pending. Claims 1-20 represent dynamic mapping of wireless network devices.

2. Claim Rejections - 35 USC § 112

Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "relative proximity" in claim 1, line 7 is a relative term, which renders the claim indefinite. The term "relative proximity" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Appropriate correction is required.

3. Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is directed to nonfunctional descriptive material such as text on a piece of paper. In this case labeled boxes on a piece of paper (representations of a plurality of network devices). The locations on the paper are "adapted" for updating and not actually updated. Well text in labeled boxes is adapted for updating. Text in boxes are certainly visible and could be drawn to scale representing relative proximity to a device or another box on the paper.

MPEP 2106 "Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*. *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759. "

4. ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogier et al. U.S. 6,845,091 in view of Sandhu et al. U.S. 6,867,733.

Ogier teaches the invention substantially as claimed including mobile ad hoc extensions for the Internet.

As to claim 1, Ogier teaches a dynamic map of a wireless network, comprising: representations of a plurality of network devices depicting locations of the network devices relative to a reference point, wherein the locations of the representations are adapted for updating without the need for manual intervention (column 7, lines 17-22, Ogier discloses each mobile node 18 may move from one location to another location

within the same subnet 10 or to another subnet 20 (i.e. subnet 10 or 20 can be equated as to "reference point", where locations of "network device" or mobile node 18 are depicted relative to "reference point" 10); see abstract).

Ogier fails to teach explicitly wherein the representations comprise visual, audible and/or tactile indicators; and wherein the representations provide an indication of at least a relative proximity between their respective network device and the reference point.

However, Sandhu teaches method and system for a plurality of mobile units to locate one another. Sandhu teaches the representations comprise visual, audible and/or tactile indicators (column 1, lines 57-58, Sandhu discloses The area map indicates by a position marker the position of each mobile unit); and

wherein the representations provide an indication of at least a relative proximity between their respective network device and the reference point (column 2, lines 61-66, Sandhu discloses a location stamp indicating the location of the sender mobile unit. The outbound package may contain a request, either in addition to or instead of an announcement. A request may be a request for the location of another user, or a request to be notified if a geographical parameter is met; see abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ogier in view of Sandhu to provide the representations comprise visual, audible and/or tactile indicators; and wherein the representations provide an indication of at least a relative proximity between their respective network device and

the reference point. One would be motivated to do so to allow notification to the requester (abstract).

As to claim 2, Ogier teaches the dynamic map of claim 1, wherein at least one of the network devices or the reference point is a transient device of the wireless network (column 2, lines 51-54, Ogier discloses special routers that implement both the IPv4 and IPv6 protocols in a "dual-stack" configuration are required to support the coexistence and transition phase).

As to claim 3, Ogier teaches the dynamic map of claim 1, further comprising representations of logical connectivity of the plurality of network devices (figure 1).

As to claim 4, Ogier teaches the dynamic map of claim 1, wherein the representations of the plurality of network devices comprise an ordered list of a set of the network devices capable of providing a service requested by another network device of the wireless network, and wherein the order of the list is indicative of a proximity of each of the plurality of network devices to the network device requesting the service (column 10, lines 23-48, Ogier discloses... A list of children nodes of node i, denoted children I(u). c. The sequence number of the most recent link-state update originating from node u received by node i, denoted snip(u)...).

As to claim 5, Ogier teaches the dynamic map of claim 1, further comprising:

a representation of a first network device of the plurality of network devices that is requesting a service on the wireless network (column 1-2, lines 65-67 to 1-4, Ogier discloses...Using TCP/IP, the Web browser sends HTTP (Hypertext Transport Protocol) requests to the Web server...; column 43, lines 49-52, Ogier discloses Under some circumstances, numerous clients 12 (e.g., 200), may arrive within range of the subnet 10 simultaneously, each attempting to establish a connection with the server 40); and

a representation of a second network device of the plurality of network devices that is capable of providing the requested service (column 5, lines 52-57, Ogier discloses although represented as a single server 40, other embodiments can have a group of interconnected servers. The data on the server 40 are replicated on one or more of these interconnected servers to provide redundancy in the event that a connection to the server 40 cannot be established);

wherein the representation of the first network device is highlighted to differentiate it from representations of other network devices (column 5-6, lines 58-67 to 1-7, Ogier discloses...Examples of devices that can participate as a node 18 in the subnet 10 include laptop computers, desktop computers, wireless telephones, and personal digital assistants (Pads), network computers, television sets with a service such as Web TV, client computer systems, server computer systems...); and

wherein the representation of the second network device is highlighted to differentiate it from representations of other network devices that are incapable of providing the requested service (column 1, lines 65-67, Ogier discloses After

establishing an Internet connection, the client user launches the Web browser to communicate with a Web server on the Internet).

As to claim 6, Ogier teaches the dynamic map of claim 5, further comprising:

a representation of at least one third network device of the plurality of network devices that is capable of providing the requested service (column 1, lines 50-55, Ogier discloses Communications on the Internet is packet-switched; that is, the information that is to pass from one communications entity to another is broken into packets that are individually passed from router to router until the packets arrive at their destination).

wherein the representation of the at least one third network device is highlighted to differentiate it from representations of other network devices that are incapable of providing the requested service (column 2, lines 30-39, Ogier discloses... every router forwards every update to all neighboring routers, even if only a small subset of the neighboring routers need to receive it);

As to claim 7, Ogier teaches the dynamic map of claim 6, wherein the second network device is a device most closely matching a selection criteria to provide the requested service and wherein the highlighting of the representation of the second network device further differentiates it from a representation of each third network device (column 32, lines 1-3, Ogier discloses any route taken by packets sent by the IP

host A 12 to the sever 40 on the Internet 30 necessarily traverses Ipv4 infrastructure to reach the gateway 16).

As to claim 8, Ogier teaches the dynamic map of claim 5, further comprising:

a representation of a path between the first network device and the second network device (figure 4).

As to claim 9, Ogier teaches the dynamic map of claim 8, wherein the representation of the path between the first network device and the second network device accounts for obstructions between the first network device and the second network device (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 10, Ogier teaches the dynamic map of claim 8, further comprising: a representation of a path between the first network device and each of the third network devices (column7, lines 54-57, Ogier discloses Each router 14 in the subnet 10 is responsible for detecting, updating, and reporting changes in cost and up-or-down status of each outgoing communication link to neighbor nodes).

As to claim 11, Ogier teaches the dynamic map of claim 10, wherein the representation of the path between the first network device and each of the third second network devices accounts for obstructions between the first network device and

the third network devices (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 12, Ogier teaches the dynamic map of claim 1, further comprising a directional indicator indicative of a direction between a first network device requesting a service on the wireless network and a second network device selected to provide the requested service (column 6, lines 61-67, Ogier discloses Each broadcast link connecting multiple nodes 18 is mapped into multiple point-to-point bi-bidirectional link...).

As to claim 13, Ogier teaches the dynamic map of claim 1, further comprising a distance indicator indicative of a distance between a first network device requesting a service on the wireless network and a second network device selected to provide the requested service (column 13, lines 58-62, Ogier discloses his sequence number indicates the "position" up to which node i has received updates from the old parent, and indicates to the new parent that it should send only those updates that occurred subsequently (i.e., after that sequence number)).

As to claim 14, Ogier teaches the dynamic map of claim 13, wherein the distance indicator accounts for obstructions in a path between the first network device and the second network device (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 15, Ogier teaches a method of location a service-providing device of a wireless network from a service-requesting device of the wireless network, the method comprising:

generating dynamic mapping information for a plurality of network devices of the wireless network (column 7, lines 17-21, Ogier discloses each mobile node 18 may move from one location to another location within the same subnet 10 or to another subnet 20, dynamically breaking existing links and establishing new links with other nodes 18, 18' as a result).

Ogier fails to teach explicitly the plurality of network devices includes the service-providing device and the service-requesting device.

However, Sandhu teaches the service-providing device and the service-requesting device (column 3, lines 6-8, Sandhu discloses the service provider sending a notification to the requester mobile unit in the form of a response package).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ogier in view of Sandhu to provide in the plurality of network devices includes the service-providing device and the service-requesting device. One would be motivated to do so to allow improving quality of service.

Ogier fails to teach explicitly providing an indication of a distance and a direction to the service-providing device from the service-requesting device using the dynamic mapping information.

However, Sandhu teaches providing an indication of a distance and a direction to the service-providing device from the service-requesting device (column 2, lines 39-47, Sandhu discloses the mobile unit encapsulates the location data and the user input in an outbound package, and transmits the outbound package to a service provider via a communication network and a data network (e.g., the Internet)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ogier in view of Sandhu to provide providing an indication of a distance and a direction to the service-providing device from the service-requesting device using the dynamic mapping information. One would be motivated to do so to allow notification to the requester (abstract).

As to claim 16, Ogier teaches the method of claim 15, wherein the indication of the distance and the direction to the service-providing device from the service-requesting device accounts for obstructions between the service-requesting device and the service-providing device (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 17, Ogier teaches the method of claim 15, further comprising: providing a representation of a path between the service-requesting device and the service-providing device that accounts for obstructions between the service-requesting device and the service-providing device (abstract, Ogier discloses a queuing

mechanism that can update information upon resuming interrupted communications between nodes).

As to claim 18, Ogier teaches the method of claim 15, further comprising: updating the indication of the distance and the direction to the service-providing device from the service-requesting device as the service-requesting device approaches the service-providing device (abstract, Ogier discloses... a queuing mechanism that can update information upon resuming interrupted communications between nodes, and dynamic network measurement techniques for adaptively using wireless bandwidth when establishing and maintaining connections between nodes and a server; column 8, lines 12-14, Ogier discloses each source node sends a message to a neighbor of that source node, informing the neighbor of the update to that link).

As to claim 19, Ogier teaches the method of claim 15, wherein providing an indication of a distance and a direction to the service-providing device from the service-requesting device sing the dynamic mapping information further comprises:

displaying a map to a user of the service-requesting device, wherein the map comprises representations of the plurality of network devices depicting locations of the network devices relative to the service-requesting device and wherein the plurality of network devices includes the service-requesting device and the service-providing device (figure 1);

highlighting a representation of the service-requesting device to differentiate it from other network devices (column 5-6, lines 58-67 to 1-7, Ogier discloses...Examples of devices that can participate as a node 18 in the subnet 10 include laptop computers, desktop computers, wireless telephones, and personal digital assistants (Pads), network computers, television sets with a service such as Web TV, client computer systems, server computer systems...); and

highlighting a representation of the service-providing device to differentiate it from other network devices (column 1, lines 65-67, Ogier discloses After establishing an Internet connection, the client user launches the Web browser to communicate with a Web server on the Internet).

As to claim 20, Ogier teaches the method of claim 19, wherein the map further comprises a representation of a path between the service-requesting device and the service-providing device (figure 4).

6. *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to El Hadji M Sall whose telephone number is 571-272-4010. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-4010.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

El Hadji Sall
Patent Examiner
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